STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: December 10, 2019

FROM: Andrew O'Sullivan
Wetlands Program Manager

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Dredge & Fill Application
Chatham, 42634

TO Karl Benedict, Public Works Permitting Supervisor
New Hampshire Wetlands Bureau
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT Bureau of Bridge Maintenance for the subject major impact project. This project is classified as Major per Env-Wt 303.02(p). The project is located on NH Route 113 in the Town of Chatham, NH. The proposed work consists of the rehabilitation of bridge 155/128. The bridge abutments are scoured and the existing bank riprap stabilization is failing. The proposed toewalls and riprap stabilization work is proposed to protect the existing infrastructure from failure and disrepair.

This project was reviewed at the Natural Resource Agency Coordination Meeting on July 17, 2019. A copy of the minutes has been included with this application package. A copy of this application and plans can be accessed on the Departments website via the following link: http://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/wetland-applications.htm

Mitigation is not required per Env-Wt 302.03(c)2c.

The lead people to contact for this project are Steve Johnson, Administrator, Bureau of Bridge Maintenance (271-3668 or steve.johnson@dot.nh.gov) or Sarah Large, Wetlands Program Analyst, Bureau of Environment (271-3226 or sarah.large@dot.nh.gov).

A payment voucher has been processed for this application (Voucher #591397) in the amount of $618.40.

If and when this application meets with the approval of the Bureau, please send the permit directly to Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment.

AMO:sel
Enclosures

cc:
BOE Original
Town of Chatham (4 copies via certified mail)
David Trubey, NH Division of Historic Resources (Cultural Review Within)
Carol Henderson, NH Fish & Game (via electronic notification)
Maria Tur, US Fish & Wildlife (via electronic notification)
Mark Kern, US Environmental Protection Agency (via electronic notification)
Michael Hicks, US Army Corp of Engineers (via electronic notification)
Kevin Nyhan, BOE (via electronic notification)

NHDES-W-06-012

WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau
Land Resources Management

Check the status of your application: www.des.nh.gov/onestop

RSA/Rule: RSA 482-A/ Env-Wt 100-900

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

1. REVIEW TIME: Indicate your Review Time below. To determine review time, refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact) ☐ Expedited Review (Minimum Impact only)

2. MITIGATION REQUIREMENT:

If mitigation is required, a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if mitigation is required, please refer to the Determine if Mitigation is Required Frequently Asked Questions.

Mitigation Pre-Application Meeting Date: Month: 7 Day: 17 Year: 2019

☒ N/A - Mitigation is not required

3. PROJECT LOCATION:

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: **NH 113 over Bradley Brook**			TOWN/CITY:
TAX MAP: **N/A**	BLOCK: **N/A**	LOT: **N/A**	UNIT: **N/A**
USGS TOPO MAP WATERBODY NAME: **Bradley Brook** ☐ NA		STREAM WATERSHED SIZE: **2.45 Sq.Mi.** ☐ NA	
LOCATION COORDINATES (If known): **44`12'6.19" N 71`00'22.62"**		☒ Latitude/Longitude ☐ UTM ☐ State Plane	

4. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

This project will include the rehabilitation of the bridge Chatham 135/128 which carries NH 113 over Bradley Brook. The proposed work includes placing concrete toewalls along both sides of the metal pipe arch and riprap within the structure.

5. SHORELINE FRONTAGE:

☒ N/A This does not have shoreline frontage. SHORELINE FRONTAGE: **55**

Shoreline Frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line (Env-Wt 101.89).

6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management Permits are required, refer to the Land Resources Management Webpage.

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Individual Sewerage Disposal per RSA 485-A:2	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Subdivision Approval Per RSA 485-A	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Shoreland Permit Per RSA 483-B	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED

7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 19 - 1991 .

b. ☐ This project is within a Designated River corridor. The project is within ¼ mile of: _____; and date a copy of the application was sent to the Local River Management Advisory Committee: Month: __ Day: __ Year: ____

☒ N/A – This project is not within a Designated River corridor.

8. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: **NH Dept. of Transportation**

TRUST / COMPANY NAME: **NH Dept. of Transportation** | MAILING ADDRESS: **PO Box 483**

TOWN/CITY: **Concord** | STATE: **NH** | ZIP CODE: **03302**

EMAIL or FAX: **Steve.Johnson@dot.nh.gov** | PHONE: **603-271-3667**

ELECTRONIC COMMUNICATION: By initialing here: **SJ**, I hereby authorize NHDES to communicate all matters relative to this application electronically.

9. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.: **NH Dept. of Transportation**

TRUST / COMPANY NAME: **NH Dept. of Transportation** | MAILING ADDRESS: **PO Box 483**

TOWN/CITY: **Concord** | STATE: **NH** | ZIP CODE: **03302**

EMAIL or FAX: **Andrew.O'Sullivan@dot.nh.gov** | PHONE: **603-271-3226**

ELECTRONIC COMMUNICATION: By initialing here **AO**, I hereby authorize NHDES to communicate all matters relative to this application electronically.

10. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.: | COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY: | STATE: | ZIP CODE:

EMAIL or FAX: | PHONE:

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

11. PROPERTY OWNER SIGNATURE:

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for National Historic Preservation Act (NHPA) 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the NHDES is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned mail.

Property Owner Signature	Print name legibly	Date
		/ /

MUNICIPAL SIGNATURES

12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

	Print name **legibly**	Date
⇨		

DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will be reviewed in the standard review time frame.

13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

	Print name legibly	Town/City	Date
⇨			

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

14. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact.

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

Intermittent Streams: linear footage distance of disturbance is measured along the thread of the channel.

Perennial Streams/ Rivers: the total linear footage distance is calculated by summing the lengths of disturbance to the channel and each bank.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland		☐ ATF		☐ ATF
Scrub-shrub wetland		☐ ATF		☐ ATF
Emergent wetland		☐ ATF		☐ ATF
Wet meadow		☐ ATF		☐ ATF
Intermittent stream channel	/	☐ ATF	/	☐ ATF
Perennial Stream / River channel	725 / 73	☐ ATF	447 / 46	☐ ATF
Lake / Pond	/	☐ ATF	/	☐ ATF
Bank - Intermittent stream	/	☐ ATF	/	☐ ATF
Bank - Perennial stream / River	77 / 34	☐ ATF	297 / 62	☐ ATF
Bank - Lake / Pond	/	☐ ATF	/	☐ ATF
Tidal water	/	☐ ATF	/	☐ ATF
Salt marsh		☐ ATF		☐ ATF
Sand dune		☐ ATF		☐ ATF
Prime wetland		☐ ATF		☐ ATF
Prime wetland buffer		☐ ATF		☐ ATF
Undeveloped Tidal Buffer Zone (TBZ)		☐ ATF		☐ ATF
Previously-developed upland in TBZ		☐ ATF		☐ ATF
Docking - Lake / Pond		☐ ATF		☐ ATF
Docking - River		☐ ATF		☐ ATF
Docking - Tidal Water		☐ ATF		☐ ATF
Vernal Pool		☐ ATF		☐ ATF
TOTAL	802 / 107		744 / 108	

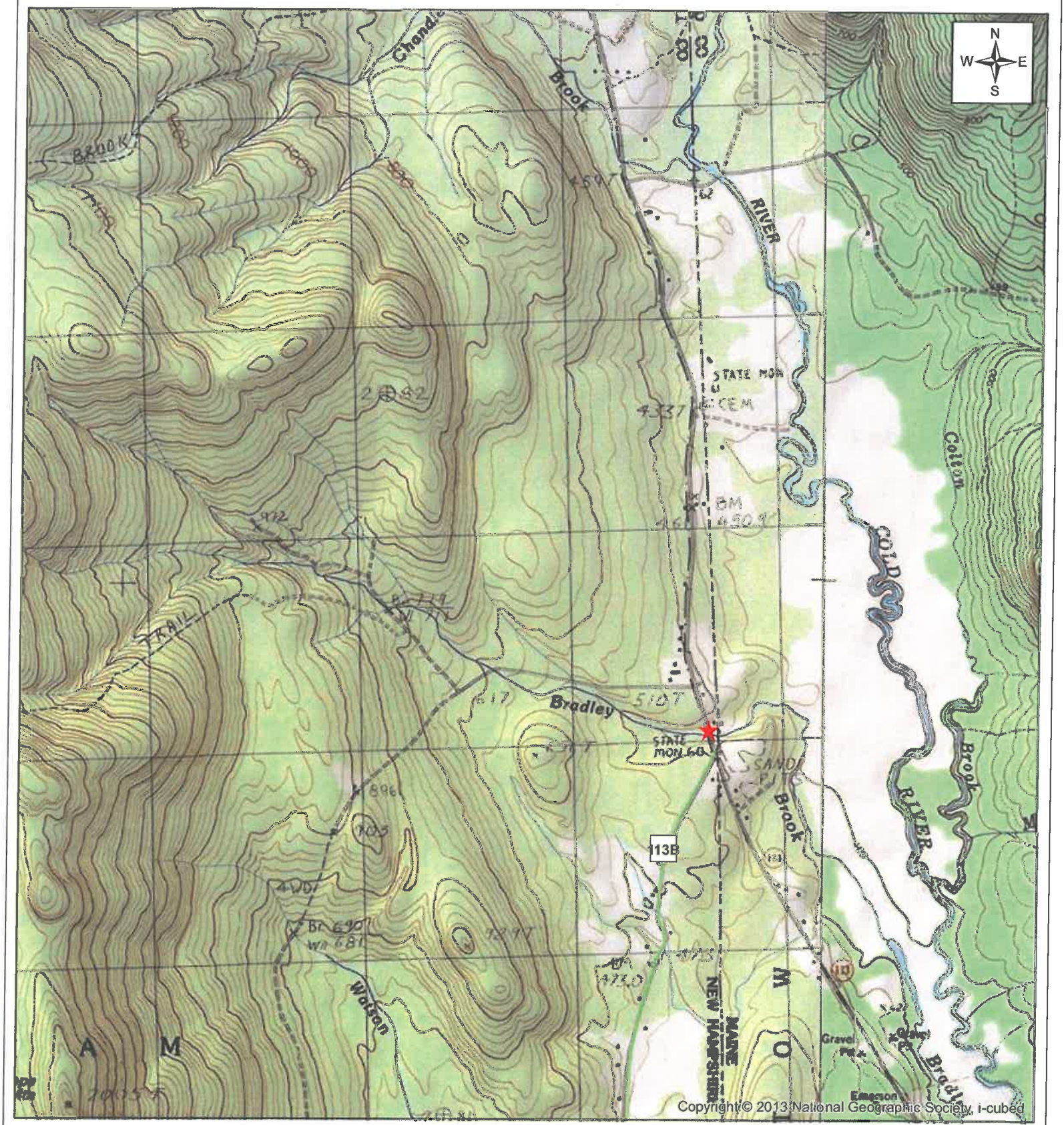
15. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee or Fee for Non-enforcement related, publicly-funded and supervised restoration projects, regardless of impact classification (see RSA 482-A:3, 1(c)): Flat fee of $ 400

☒ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking)	**1546** sq. ft.	X $0.40 =	**$ 618.40**
Temporary (seasonal) docking structure:	sq. ft.	X $2.00 =	$
Permanent docking structure:	sq. ft.	X $4.00 =	$
Projects proposing shoreline structures (including docks) add $400 =			$
Total =			**$ 618.40**
The Application Fee is the above calculated Total or $400, whichever is greater =			**$ 618.40**

Chatham, #135/128



0 0.25 0.5 0.75 1 Miles

Map depicting location of bridge 135/128 over Bradley Brook in Chatham

1:24,000

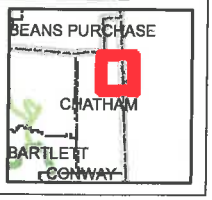
Map created by: Arin Mills on 6/20/2019

Source: S:\Environment\PROJECTS\CHATHAM\Bridge_Maint_135-128

Legend

- Project Location
- State Routes

New Hampshire DOT Department of Transportation



NEW HAMPSHIRE DEPARTMENT OF Environmental Services

WETLANDS PERMIT APPLICATION – ATTACHMENT A
MINOR AND MAJOR - 20 QUESTIONS

Land Resources Management
Wetlands Bureau

Check the Status of your application: www.des.nh.gov/onestop

RSA/ Rule: RSA 482-A, Env-Wt 100-900

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

The bridge was identified as being in need of repair resulting from an inspection done in July 2018. The inspection identified scour along the base of stones within the structure with up to 4' of penetration. Scour was also observed at the inlet and outlet. The proposed project will restore the toe walls and placement of rip rap to protect the structure.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

Alternatives considered are as follows:

No action: This will lead to eventual deterioration of the bridge structure, potentially causing the roadway to be closed and further deterioration of the surrounding environment.

Bridge replacement: This alternative would be very costly an result in a larger impact to the stream and surrounding area. Based on the inspection it was determined the bridge could be repaired, allowing it to remain in-service and minimizing impacts to the surrounding resources and traveling public.

Bridge repair (preferrred alternative): This alternative will result in less impact to the surrounding resources than bridge replacement, while allowing the bridge to remain operational and open to the public. It is also a cost effective solution.

3. The type and classification of the wetlands involved.

R3UB12: Riverine, Upper Perennial, Unconsolidated Bottom, Cobble-Gravel/Sand

R3RB1: Riverine, Upper Perennial, Rock Bottom, Bedrock

R2UB12: Riverine, Lower Perennial, Unconsolidated Bottom, Cobble-Gravel/Sand

Bank

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

Bradley Brook flows in a southeast direction from the Eastman Mountain drainage. The Brook flows from the crossing of NH Route 113 for approx. 3 miles to the southeast where it meets the Cold River in the State of Maine.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

Bradley Brook has not been identified as a rare surface water of the state.

6. The surface area of the wetlands that will be impacted.

944 sq.ft R3UB12 (615 sq.ft permanent, 329 sq.ft. temporary)

374 sq.ft. bank (77 sq.ft. permanent, 297 sq.ft. temporary)

40 sq.ft R2UB12 40 sq.ft temporary

188 sq.ft R3RB1 (110 sq.ft permanent, 78 sq.ft temporary)

7. The impact on plants, fish and wildlife including, but not limited to:
   a. Rare, special concern species;
   b. State and federally listed threatened and endangered species;
   c. Species at the extremities of their ranges;
   d. Migratory fish and wildlife;
   e. Exemplary natural communities identified by the DRED-NHB; and
   f. Vernal pools.

a. Results of the NH Natural Heritage bureau database search (NHB19-1991) resulted in no known occurrences for sensitive species near the project area.

b. No additional concerns for state listed species were identified by the July 17, 2019 Natural Resources Agency Meeting. Results fo the USFWS IPaC search identified Northern long-eared bat (NLEB) on the Projects Official Species list and having potential to be present in the project area. Further review with the USFWS found that the project is consistant with the Programmatic Biological Opinion fo rthe NLEB and the action is not projibited under the Endangered Species Act 4(d) rule where tree clearing will occur (>3"dbh).

c. No speices at the extremities of their range are known to occur in the project area.

d. Impacts to migratory fish and wildlife are are not anticipated as proposed work will not alter the flow of water , both velocity or location, within Bradley Brook. The stream has not been identified as Essential Fish Habitat.

e. No exemplary natural communties will be impacted by the project as identified by Natural Heritage Bureau (NHB19-1991)

f. No vernal pools occur within the project area.

8. The impact of the proposed project on public commerce, navigation and recreation.

The project will not impact public commerce or recreation in the area. No recreation facilities have been identified in the area. Repair will maintain safe passage of vehicles along NH Route 113. Temporary lane shifts and closures may occur through construction and normal traffic flow will continue once the repair is complete.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The project will not interfere with the aesthetic interests of the general public as it is repair of an existing structure. If the repairs were not complete the bridge will go into disrepair causing possible closure of the bridge, interfering with transporation along NH Route 113.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

The project will not interfere with the public right of passage or access as no recreation facilities are within the project area. Bradley Brook is not navigable by boat.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

The project is not expected to have a negative impact on abutting properties. The repair will better serve the abutting properties who travel the road by maintaing the bridge in passable condition. Work will be conducted in the State right-of-way. Rip rap and concrete toe wall will be installed to restore the existing structure and prevent further scour in and around the structure. The rip rap or toe wall will not change the flow rates or capacity of the bridge.

12. The benefit of a project to the health, safety, and well being of the general public.

The project benefits the safety of the general public by maintaining the bridge in passable condition. Failure to maintain the bridge will lead to possible bridge failure and potential closure of the roadway.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

The proposed project will have no effect on the quantity of surface water and the project will repair identified deficiencies in the existing structure. The proposed project will not degrade the quality of the surface water through the use of erosion control measures, such as a clean water bypass and perimeter control during construction. Overall the repair project will improve water quality by addressing erosion from stream scouring.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

Flooding: Installation of the concrete toewalls and riprap along the bridge will not increase flooding in or surrounding the structure. 100-year FEMA Flood Zones were identified within the project area.

Erosion: The repair is in response to existing scour to the existing structure. The stabilization measures are to minimize erosion.

Sedimentation: The proposed project will not be a barrier to sediment transport, nor alter the existing flow regime/conditions.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

Surface waters will not be reflected or redirected as a result of this project. Bradley Brook does not have enough surface area for wave energy to be an issue.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

There are no additional transportation related structures nearby the project area and therefore this work will not affect additional landowners along Bradley Brook from this work.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

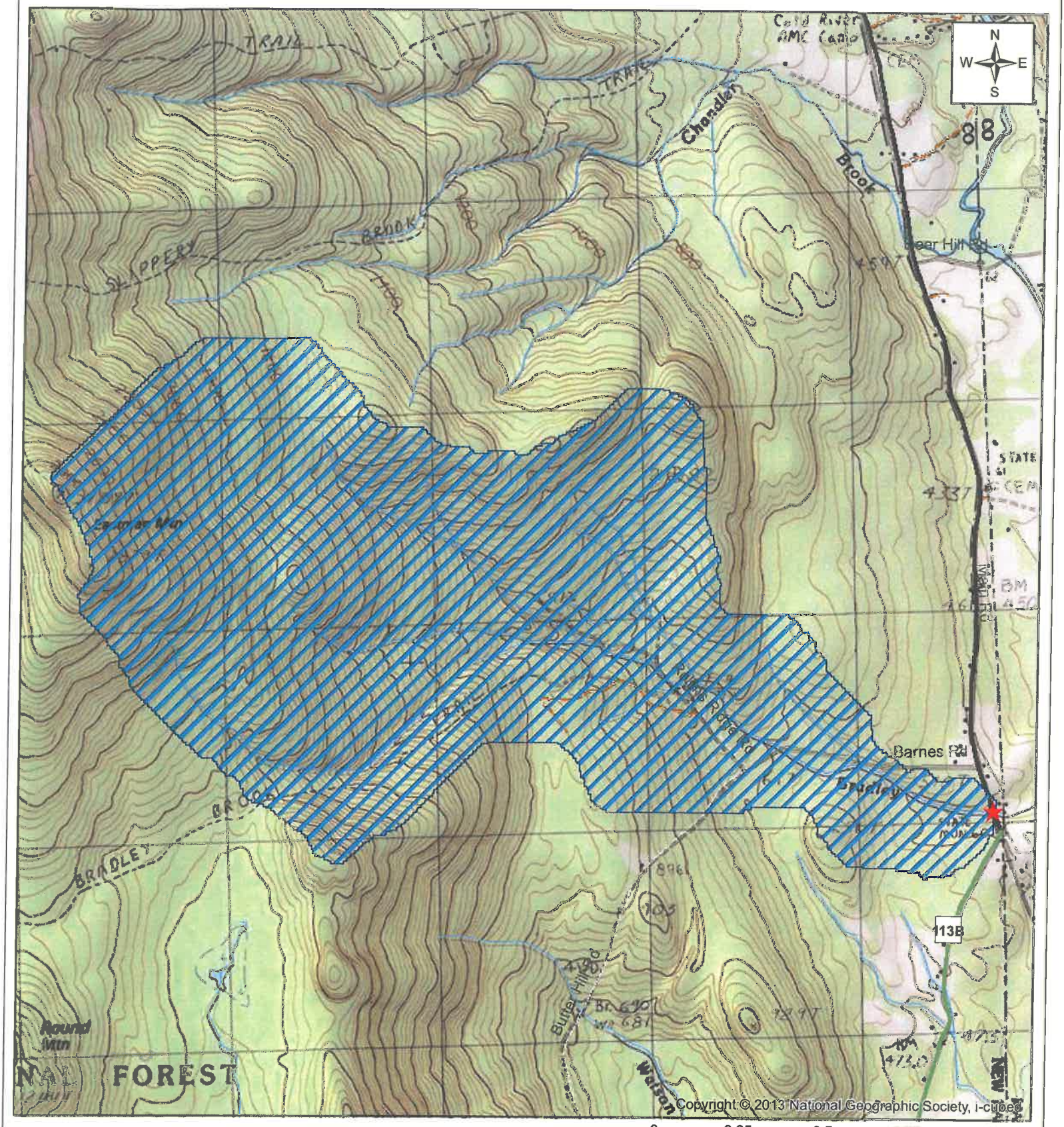
The installation of the concrete toewalls and riprap will prevent further scour that would impact Bradley Brook natural passage. The function of Bradley Brook is to carry water from a higher elevation to a lower elevation, and the project will not interfere with that function. The project is to repair the existing structure, allowing it to continue to pass water.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.
****Under Review. Pending results of Cultural Resource meeting on December 12, 2019.**
19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.
There are no areas named in an act of Congress or Presidential proclamations as natural rivers, national wilderness area, or national lakeshores that will be impacted as a result of this project.
20. The degree to which a project redirects water from one watershed to another.

The project will not redirect water from one watershed to another.

Additional comments

Chatham, #135/128



0 0.25 0.5 0.75 1 Miles

1:24,000

Legend

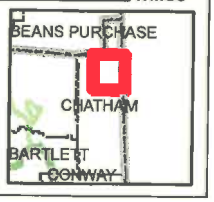
- Project Location
- State Routes
- globalwatershed
- NHD_flowline

Map depicting location of bridge 135/128 over Bradley Brook in Chatham with StreamStats watershed.

Map created by: Arin Mills on 6/20/2019

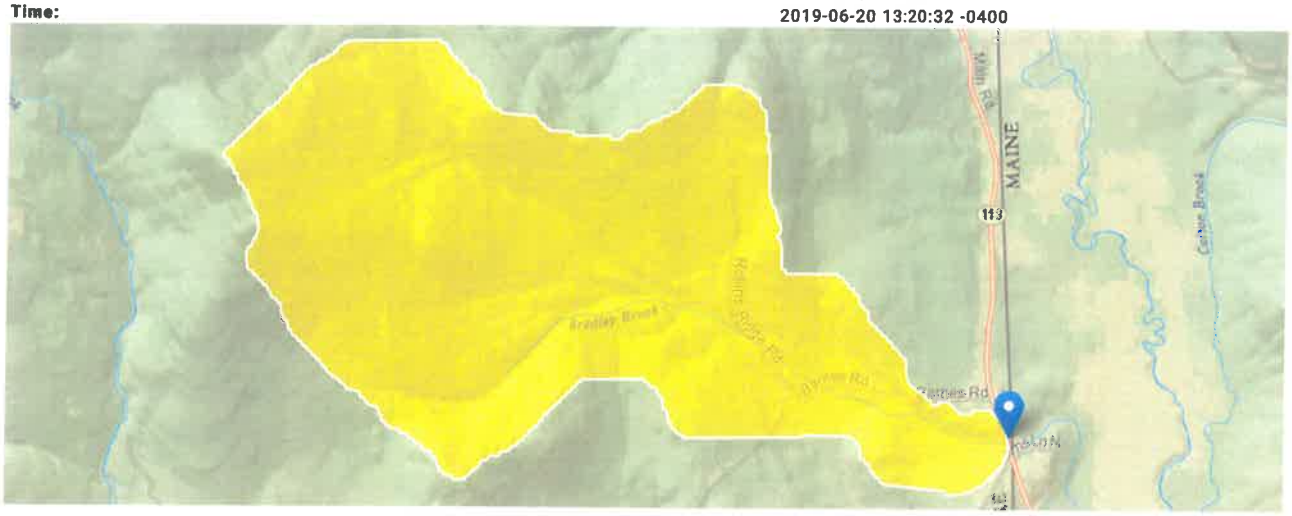
Source: S:\Environment\PROJECTS\CHATHAM\Bridge_Maint_135-128

New Hampshire DOT Department of Transportation



StreamStats Report

Region ID: NH
Workspace ID: NH20190620172013757000
Clicked Point (Latitude, Longitude): 44.20187, -71.00618
Time: 2019-06-20 13:20:32 -0400



Bridge #135/128 which carries Main Rd over Bradley Brook

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.45	square miles
APRAVPRE	Mean April Precipitation	4.548	inches
WETLAND	Percentage of Wetlands	0.0329	percent
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	461	feet per mi

Peak-Flow Statistics Parameters[Peak Flow Statewide SIR2008 5206]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.45	square miles	0.7	1290
APRAVPRE	Mean April Precipitation	4.548	inches	2.79	6.23
WETLAND	Percent Wetlands	0.0329	percent	0	21.8
CSL10_85	Stream Slope 10 and 85 Method	461	feet per mi	5.43	543

Peak-Flow Statistics Flow Report[Peak Flow Statewide SIR2008 5206]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	PIu	SEp	Equiv. Yrs.
2 Year Peak Flood	209	ft^3/s	127	342	30.1	3.2
5 Year Peak Flood	372	ft^3/s	224	617	31.1	4.7
10 Year Peak Flood	511	ft^3/s	302	867	32.3	6.2
25 Year Peak Flood	701	ft^3/s	400	1230	34.3	8
50 Year Peak Flood	858	ft^3/s	475	1550	36.4	9
100 Year Peak Flood	1050	ft^3/s	559	1960	38.6	9.8
500 Year Peak Flood	1490	ft^3/s	736	3040	44.1	11

Peak-Flow Statistics Citations

Olson, S.A.,2009, Estimation of flood discharges at selected recurrence intervals for streams in New Hampshire: U.S.Geological Survey Scientific Investigations Report 2008-5206, 57 p. (http://pubs.usgs.gov/sir/2008/5206/)

Application Version: 4.3.8

New Hampshire DOT
Department of Transportation

BUREAU OF BRIDGE MAINTENANCE

PROJECT Chatham
PROJECT NO. 42634 BR. NO. 135/128
CALCULATIONS FOR Hydraulic Capacity
MADE BY TMB DATE 11/22/2019
CHECKED BY _____ DATE _____

Chatham 135/128 is a MP-A constructed in 1934 that carries NH 113 over Bear Brook.

The structure was modeled using as-built bridge plans, field trips and photographs to determine the hydraulic capacity. There is not a history of overtopping at this location or flooding.

USGS streamstats was used to determine the watershed size (2.45 sq miles) and get other data for this crossing including a profile of the stream in the drainage area upstream of the crossing.

The existing structure will convey the 100 year storm event. The modeling of the structure was adjusted to reflect the proposed work, adding concrete toe walls along the granite block abutments. This maintenance work will address undermining of the abutments to stabilize the structure. Based on the revised modeling the structure will convey the 100 year storm event.

Timothy Beaty

Timothy Beaty, P.E.

NH Department of Transportation
Bureau of Bridge Maintenance
Project, #42634
Env-Wt 904.09 Alternative Design
TECHNICAL REPORT

Env-Wt 904.09(a) - If the applicant believes that installing the structure specified in the applicable rule is not practicable, the applicant may propose an alternative design in accordance with this section.

Please explain why the structure specified in the applicable rule is not practicable (Env-Wt 101.69 defines practicable as *available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes.)*

Bradley Brook has a drainage area of 2.45 square miles which qualifies as a Tier 3 crossing. The required span for a compliant crossing in accordance with the current NH Stream Crossing Guidelines was calculated to be 25 foot. The cost to construct a fuller compliant structure is estimated to be $950,000 based on similar structure sizes. The proposed work will stabilize the structure without increasing the risk of flooding. It is estimated that the proposed work will cost $$75,000. Performing the proposed work makes economic and logistical sense to keep the structure in service.

The proposed alternative meets the specific design criteria for Tier 2 and Tier 3 crossings to the *maximum extent practicable*, as specified below.

Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings – New Tier 2 stream crossings, replacement Tier 2 crossings that do not meet the requirements of Env-Wt 904.07, and new and replacement Tier 3 crossings shall be designed and constructed:

(a) In accordance with the NH Stream Crossing Guidelines.

The proposed improvements have been developed in accordance with the NH Stream Crossing Guidelines. The Department has considered numerous design alternatives based on general considerations that take the geomorphic conditions of the stream into account as it relates to the structure. The Department has collected data in the field and in the office to aid in the design of the proposed crossing. Using information that was available the Department has determined that a full bridge replacement would not be practicable. As such, the Department has proposed an alternative design that meets the intent of the stream crossing guidelines to maximum extent practicable.

(b) With bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing.

The proposed project will not significantly change the existing waterway opening and structure alignment, and therefore, it will not change the depths or velocities at the crossing. The proposed rip rap will be placed throughout the structure in areas where ledge is not found. The rip rap will be keyed into the existing streambed at the existing streambed elevation as to not alter the existing streambed characteristics.

(c) To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage.

The existing structure does not have banks through the pipe, nor will it after the repair. The banks abutting both sides of Bradley Brook are currently vegetated. Although these are temporary impacts in those areas the vegetation and existing conditions are not expected to be changed permanently. Wildlife can pass through the crossing; however, it will be in a wet/aquatic environment.

(d) To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain.

The proposed project will not significantly change the existing waterway opening nor the structure alignment, and therefore the current alignment and gradient of the stream channel will not change as a result of this project. The current elevations and gradient of the stream will not be affected by the proposed work.

(e) To accommodate the 100-year frequency flood, to ensure that (1) there is no increase in flood stages on abutting properties; and (2) flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability.

The proposed work will not affect the ability of the structure to convey the 100-year flood event. Abutting property owners will not see an increase in flooding since the structure will not compromise the channel's stability. The proposed design will continue to accommodate sediment through the crossing.

(f) To simulate a natural stream channel.

The existing bridge has a natural bottom of a mixture of Rock Bottom and a mixture of Cobble and gravel. Rip rap will be placed through the structure along the south abutment. Fines and natural material will intermix with the riprap over time to protect the structure.

(g) So as not to alter sediment transport competence.

The proposed crossing will not impact the crossing's ability to transport sediment. Flow rates and transport competency will remain the same as the existing conditions.

Env-Wt 904.09(c)(3) – The alternative design must meet the general design criteria specified in Env-Wt 904.01:

Env-Wt 904.01
(a) Not be a barrier to sediment transport;

There will be no barriers to sediment transport as a result of the structure modification/repair. The crossing currently transports sediment and the proposed repairs will not alter the crossing's ability to continue this function. The crossing will maintain the existing opening and therefore is anticipated to continue to pass everything it is currently passing.

(b) Prevent the restriction of high flows and maintain existing low flows;

The proposed crossing will maintain the existing waterway opening. High flows and low flows will not be changed as a result of this project.

(c) Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction;

Aquatic life indigenous to the water body will not be obstructed or otherwise disrupted as a result of this project. The stream will maintain its ability to successfully provide adequate aquatic organism and fish passage.

(d) Not cause an increase in the frequency of flooding or overtopping of banks;

The existing crossing has no history of flooding or overtopping the banks of the stream. The proposed project will not increase the frequency of flooding or overtopping of banks.

(e) Preserve watercourse connectivity where it currently exists;

The watercourse is currently connected. Nothing in the proposed work will alter connectivity.

(f) Restore watercourse connectivity where: (1) Connectivity previously was disrupted as a result of human activity(ies); and (2) Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both;

The watercourse is currently connected and will remain after the repair.

(g) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and

The intent of the proposed project will not cause erosion, aggradation or scouring upstream or downstream of the crossing. Appropriate BMP's will be in place to ensure that the construction site is stable at all times.

(h) Not cause water quality degradation.

The proposed project will not cause water quality degradation. BMP's/water diversion will be used to do work in a confined area. Stormwater will continue to drain in the river as it currently does today because no topography will be permanently altered.

***Note: An alternative design for Tier 1 stream crossings must meet the general design criteria (Env-Wt 904.01) only to the *maximum extent practicable*.**

New Hampshire Natural Heritage Bureau

To: Douglas Locker
7 Hazen Drive
Concord, NH 03302

Date: 6/24/2019

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 6/24/2019

NHB File ID: NHB19-1991 Applicant: Steve Johnson

Location: Tax Map(s)/Lot(s):
Chatham

Project Description: The bridge carrying NH 113 over Bradely Brook is to be rehabilitated.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 6/23/2020.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Road
Concord NH 03301

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588
http://www.fws.gov/mainefieldoffice/index.html

In Reply Refer To:
Consultation Code: 05E1ME00-2019-SLI-0896
Event Code: 05E1ME00-2019-E-02302
Project Name: Chatham Bridge # 135/128

June 21, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies the threatened, endangered, candidate, and proposed species and designated or proposed critical habitat that may occur within the boundary of your proposed project or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC Web site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the Endangered Species Consultation Handbook at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

This species list also identifies candidate species under review for listing and those species that the Service considers species of concern. Candidate species have no protection under the Act but are included for consideration because they could be listed prior to completion of your project. Species of concern are those taxa whose conservation status is of concern to the Service (i.e., species previously known as Category 2 candidates), but for which further information is needed.

If a proposed project may affect only candidate species or species of concern, you are not required to prepare a Biological Assessment or biological evaluation or to consult with the Service. However, the Service recommends minimizing effects to these species to prevent future conflicts. Therefore, if early evaluation indicates that a project will affect a candidate species or species of concern, you may wish to request technical assistance from this office to identify appropriate minimization measures.

Please be aware that bald and golden eagles are not protected under the Endangered Species Act but are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may require development of an eagle conservation plan: http://www.fws.gov/windenergy/eagle_guidance.html Information on the location of bald eagle nests in Maine can be found on the Maine Field Office Web site: http://www.fws.gov/mainefieldoffice/Project%20review4.html

Additionally, wind energy projects should follow the wind energy guidelines: http://www.fws.gov/windenergy/ for minimizing impacts to migratory birds and bats. Projects may require development of an avian and bat protection plan.

Migratory birds are also a Service trust resource. Under the Migratory Bird Treaty Act, construction activities in grassland, wetland, stream, woodland, and other habitats that would result in the take of migratory birds, eggs, young, or active nests should be avoided. Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g.,

cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm and at: http://www.towerkill.com; and at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
(207) 469-7300

Project Summary

Consultation Code: 05E1ME00-2019-SLI-0896

Event Code: 05E1ME00-2019-E-02302

Project Name: Chatham Bridge # 135/128

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: Bridge maintenance will include scour repair underpinning and riprap work.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.20183440902763N71.0062207649872W

Counties: Oxford, ME

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588
http://www.fws.gov/mainefieldoffice/index.html

In Reply Refer To:
Consultation Code: 05E1ME00-2019-TA-0896
Event Code: 05E1ME00-2019-E-02303
Project Name: Chatham Bridge # 135/128

June 21, 2019

Subject: Verification letter for the 'Chatham Bridge # 135/128' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Arin Mills:

The U.S. Fish and Wildlife Service (Service) received on June 21, 2019 your effects determination for the 'Chatham Bridge # 135/128' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Chatham Bridge # 135/128

2. Description

The following description was provided for the project 'Chatham Bridge # 135/128':

> Bridge maintenance will include scour repair underpinning and riprap work.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.20183440902763N71.0062207649872W

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered

   No

5. Is the project action area located within 0.25 miles of a known northern long-eared bat hibernaculum?

   Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency

   Automatically answered

   No

6. Is the project action area located within 150 feet of a known occupied northern long-eared bat maternity roost tree?

   Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency

   Automatically answered

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0.1

2. If known, estimated acres of forest conversion from April 1 to October 31

0.1

3. If known, estimated acres of forest conversion from June 1 to July 31

0.1

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

Please mail 2 copies of the completed form and required material to:

Cultural Resources Staff
Bureau of Environment
NH Department of Transportation
7 Hazen Drive
Concord, NH 03302

RECEIVED
AUG 20 2019

DHR Use Only	
R&C #	11001
Log In Date	8/20/19
Response Date	___/___/___
Sent Date	___/___/___

Request for Project Review by the New Hampshire Division of Historical Resources for Transportation Projects

RECEIVED
BUREAU OF ENVIRONMENT
SEP 05 2019
NH DEPARTMENT OF TRANSPORTATION

☒ This is a new submittal.
☐ This is additional information relating to DHR Review and Compliance (R&C)#:

GENERAL PROJECT INFORMATION

DOT Project Name & Number Chatham Bridge Maintenance (#135/128)

Brief Descriptive Project Title Project will include rehabilitation of bridge #135/128 which carries NH Route 113 (Main Rd) over Bradley Brook. Bridge was inspected in 2018 and found to to have voids along the base of the interior wall, as well as voids along the base stones at the south abutment. Work will include installation of concrete toewalls along both sides of the interior of the structure and installation of riprap along the length of the structure to prevent further undermining of the structure.

Project Location NH Route 113/Main Rd over Bradley Brook

City/Town Chatham

Lead Federal Agency and Contact *(if applicable)*
(Agency providing funds, licenses, or permits)

Permit Type and Permit or Job Reference #

DOT Environmental Manager *(if applicable)* Arin Mills

PROJECT SPONSOR INFORMATION

Project Sponsor Name NHDOT Bureau of Bridge Maintenance

Mailing Address Phone Number

City State Zip Email

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Jillian Edelmann, NHDOT Bureau of Environment

Mailing Address 7 Hazen Drive Phone Number -2717968

City Concord State NH Zip 03302 Email Jillian.Edelmann@dot.nh.gov

This form is updated periodically. Please download the current form at http://www.nh.gov/nhdhr/review. *Please refer to the Request for Project Review for Transportation Projects Instructions for direction on completing this form.* Submit 2 copies of this project review form for each project for which review is requested. Include 1 self-addressed stamped envelope to expedite review response. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be

retained by the DOT and the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: http://www.nh.gov/nhdhr/review or contact the R&C Specialist at Marika.Labash@dncr.nh.gov or 603.271.3558.

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION 11001

Project Boundaries and Description

- ☒ Attach the Project Mapping ***indicating the proposed area of potential effects (APE).*** *(See RPR for Transportation Projects Instructions and R&C FAQs for guidance. Note that the APE is subject to approval by lead federal agency and SHPO.)*
- ☒ Attach a detailed narrative description of the proposed project.
- ☒ Attach current engineering plans with tax parcel, landscape, and building references, and areas of proposed excavation, if available.
- ☒ Attach photos of the project area/APE with mapped photo key (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) *(Blank photo logs are available on the DHR website. Informative photo captions can be used in place of a photo log.)*
- ☐ A DHR records search must be conducted to identify properties within or adjacent to the APE. Provide records search results via EMMIT or in **Table 1**. *(Blank table forms are available on the DHR website.)* EMMIT or in-house records search conducted on / / *

**The DHR recommends that all survey/National Register nomination forms and their Determination of Eligibility (green) sheets are downloaded or copied for your use in project development.*

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the APE? ☒ Yes ☐ No
If no, skip to Archaeology section. If yes, submit all of the following information:

- ☐ Attach completed **Table 2**.
- ☒ Photographs of ***each*** resource or streetscape located within the APE. Add to the mapped photo key and photo log noted above. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)
- ☐ Copies of National Register boundary (listed *or* eligible) mapping, and add National Register boundaries for listed and eligible properties to project mapping/engineering plans *(if applicable)*.

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☐ Yes ☒ No
If yes, submit all of the following information:

- ☐ Description of current and previous land use and disturbances.
- ☐ Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.

AGENCY COMMENT *This Space for DOT and Division of Historical Resources Use Only*

Sent to DHR; Authorized DOT Signature: JE Date: 8/16/19

☐ Insufficient information to initiate review.

☐ Additional information is needed in order to complete review.

Comments: NO ARCHAEOLOGICAL CONCERNS.
As the project will obscure design/material elements of the bridge, DHR recommends that an Individual Inventory Form be prepared to document the bridge as-is currently - including discussion of the stone/concrete/metal interior features as related to the bridge's significance. Any repointing MUST follow best practice guidance as provided with the Secretary of the Interior's Standards.

If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.

Authorized DHR Signature: Laura A Blace Date: Sept 4, 2019

If these two steps are taken the project could result in a No Adverse Effect Finding.

Chatham 135/128, #42634
NH 113 over Bradley Brook

Install ~10" concrete walls along each abutment and install rip rap through structure where possible to protect and keep it in service.

Large, Sarah

From: Edelmann, Jillian
Sent: Tuesday, December 10, 2019 8:32 AM
To: Mills, Arin; Large, Sarah
Subject: FW: Chatham - RPR# 11001 -Effect evaluation

NHDHR concurred with the effect determination (No Adverse Effect). I will work on drafting the effect memo today and then having it signed.

Sarah, you can use this email chain as a placeholder under we have the signed effect memo.

Jill Edelmann
Cultural Resources Manager, NHDOT

*NOTE: As of October 31, 2016 all NHDOT emails have changed. Please update any contact lists.

From: Black, Laura <Laura.Black@dncr.nh.gov>
Sent: Monday, December 09, 2019 3:23 PM
To: Edelmann, Jillian <Jillian.Edelmann@dot.nh.gov>; Trubey, David <David.Trubey@dncr.nh.gov>
Cc: Labash, Marika <Marika.Labash@dncr.nh.gov>
Subject: RE: Chatham - RPR# 11001 -Effect evaluation

Jill,

I concur with the effect evaluation for the culvert. Is there something in particular we needed to discuss about it?

Laura S. Black
Preservation Compliance Specialist and Easement Program Coordinator
New Hampshire Division of Historical Resources

Working together to preserve and celebrate New Hampshire's irreplaceable historic resources.

Find out more about the 2016-2020 5-Year Statewide Preservation Plan: http://www.nh.gov/nhdhr/programs/plan.htm

Share your photos of your favorite New Hampshire historic places at:
https://www.nh.gov/nhdhr/publications/mynewhampshire.htm

From: Edelmann, Jillian <Jillian.Edelmann@dot.nh.gov>
Sent: Monday, December 9, 2019 2:41 PM
To: Black, Laura <Laura.Black@dncr.nh.gov>; Trubey, David <David.Trubey@dncr.nh.gov>

Cc: Labash, Marika <Marika.Labash@dncr.nh.gov>
Subject: Chatham - RPR# 11001 -Effect evaluation

Laura and Dave,

At the CR meeting on Thursday we will be discussing the Chatham bridge effects.

Attached is the draft effect table for your review and further discussion on the 12th. Let me know if you have any questions.

Jill Edelmann
Cultural Resources Manager
Bureau of Environment, NH Department of Transportation
7 Hazen Drive, Room 160, Concord, NH 03302
603-271-7968
jillian.edelmann@dot.nh.gov

*NOTE: As of October 31, 2016 all NHDOT emails have changed. Please update any contact lists.

US Army Corps of Engineers®
New England District

New Hampshire General Permits (GPs)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*		X
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/. The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	X	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?		
2.7 What is the area of the proposed fill in wetlands?		
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?		
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index	X	

3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	X	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		X
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	**Awaiting final determination**	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.
** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

Chatham, #135/128

0 125 250 500 Feet

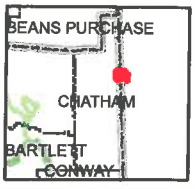
1:3,000

Map depicting location of bridge 135/128 over Bradley Brook in Chatham

Map created by: Arin Mills on 6/4/2019

Source: S:\Environment\PROJECTS\CHATHAM\Bridge_Maint_135-128

New Hampshire DOT Department of Transportation



Upstream Inlet

Signs of Settlement

Downstream Channel

Upstream Channel

Looking Upstream

Looking Downstream

CONSTRUCTION SEQUENCE

1. At normal to low flow, a diversion pipe will be placed at the streambed elevation. The work zone will be dewatered or contained.
2. The toewalls will be formed and placed.
3. Riprap will be placed in front of the wingwalls.
4. All dewatering devices will be removed and the site will be restored to its original quality.

Note: The Project will utilize BMP's from the Best Management Practices manual during all phases of construction.

Env-Wt 404 Criteria for Shoreline Protection

The rehabilitation of the bridge that carries Rte. 113 over Bradley Brook proposes the placement of stone fill within areas under the jurisdiction of the NH Wetlands Bureau and the US Army Corps of Engineers. The stone fill will be located in the channel and along the bank of the proposed structure as shown on the plans.

Pursuant to PART Wt 404 Criteria for Shoreline Stabilization, the following addresses each codified section of the Administrative Rules:

Wt 404.01 Least Intrusive Method

The project proposes to replace existing rip rap protect the structure and stabilize the bank areas. The riverbank stabilization treatment proposed is the least intrusive construction method necessary to minimize the disruption to the existing shorelines. Existing vegetation will not be removed from road slope areas. The stone treatment can be reasonably constructed utilizing general highway construction methods.

Wt 404.02 Diversion of Water

Proposed roadway drainage will allow storm water run-off to be diverted so that it will flow over vegetated areas, insofar as possible, prior to entering Bradley Brook. This will minimize erosion of the shoreline. The concrete toe walls and rip areas at each abutment will be constructed behind cofferdams, allowing Bradley Brook to flow past the work area. If needed, a sedimentation basin will be installed as shown on the impact plans a minimum of 20' from identified wetland areas.

Wt 404.03 Vegetative Stabilization

Natural vegetation will be left undisturbed to the maximum extent possible. The only locations being disturbed are the impacted areas on the plan for construction. All newly developed slopes and disturbed areas will have humus and seed applied for turf establishment, which will help stabilize the project area.

Wt 404.04 Rip-Rap

(a) Stone fill, as proposed, is shown on the attached plans to protect the channel and bank as necessary. Stable embankments are necessary to maintain the structural integrity of the bridge during all flow conditions.

(b) (1-5) The minimum and maximum stone size, the gradation, cross sections of the stone fill, proposed location, and other details have been provided on the attached plans. Bedding for the stone fill will consist of natural ground excavated to the proposed underside of the stone fill.

(b) (6) Enclosed are plan sheets to sufficiently indicate the relationship of the project to fixed points of reference, abutting properties, and features of the natural shoreline.

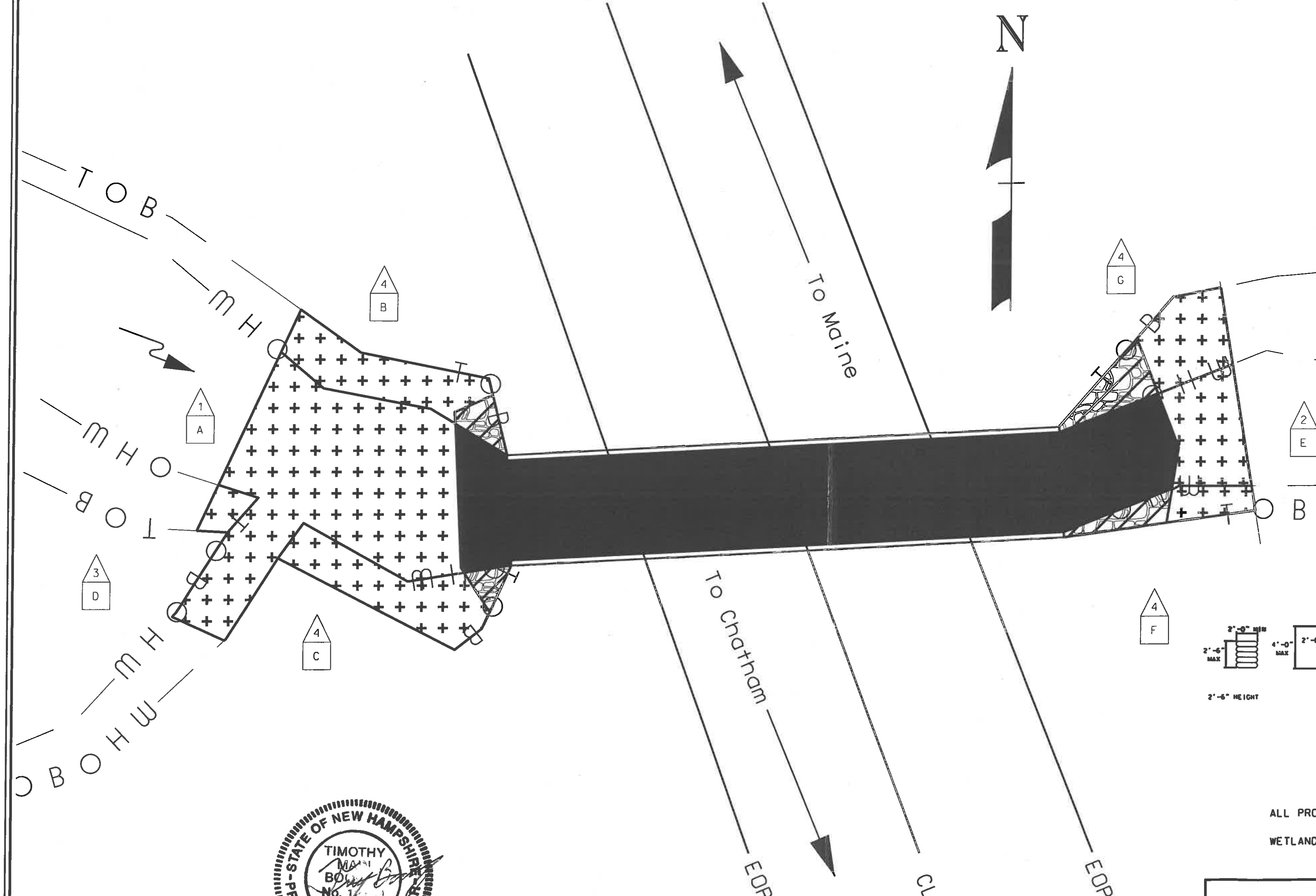
(b) (7) Stone fill is recommended for the limits shown on the attached plans to protect the banks from erosion during flood flows, from scour during all flows, and slopes greater than 2:1 have difficulty supporting vegetation.

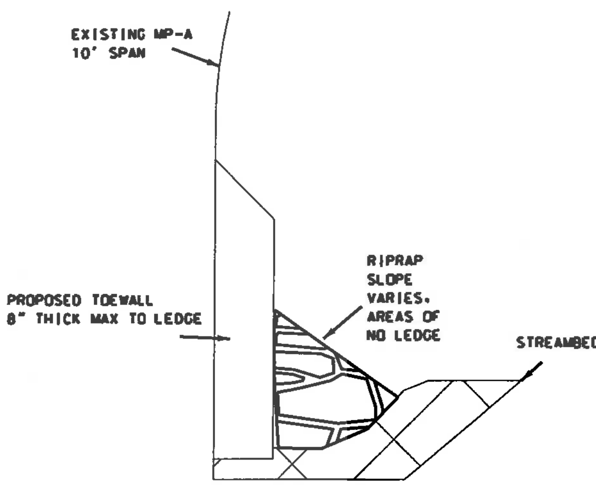
(c) This project is not located adjacent to a great pond or water body where the state holds fee simple ownership.

(d) Stone fill is proposed to extend down to and adequately keyed into the channel bottom to prevent possible undermining of the slope.

(e) The enclosed plan has been stamped by a professional engineer.

RRIPRAP	
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

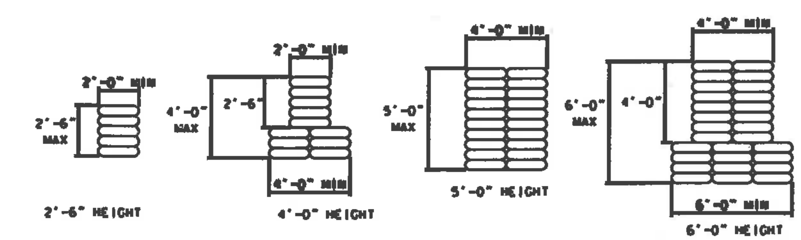




SECTION A-A

NOT TO SCALE

RIPRAP GRADATION
D15 < 13"
D50 < 17.5"
D100 < 30"



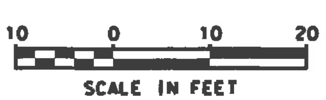
COFFERDAM DETAILS

NOT TO SCALE

ALL PROPOSED WORK WILL BE WITHIN EXISTING NHDOT ROW

WETLANDS DELINEATED BY SARAH LARGE JUNE 2019

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – TIMOTHY MAIN BOO... No. 12... LICENSED



WETLAND IMPACTS

SCALE: 1" = 20'-0"

STATE OF NEW HAMPSHIRE						
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE MAINTENANCE						
TOWN CHATHAM		BRIDGE NO. 135/128		STATE PROJECT 42634		
LOCATION NH 113 OVER BRADLEY BROOK						
WETLAND IMPACTS						BRIDGE SHEET 1 OF 3
REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE	
DESIGNED			CHECKED			FILE NUMBER CHATHAM 135/128
DRAWN	DBL	7/9/19	CHECKED	TMB	11/25/19	
QUANTITIES			CHECKED			
SHEET SCALE AS NOTED	ISSUE DATE	FISCAL YEAR 2019	CREW 8	SHEET NO. 1		TOTAL SHEETS 3
	REV. DATE					

Chatham 135/128

WETLAND IMPACT SUMMARY

WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA IMPACTS						LINEAR STREAM IMPACTS FOR MITIGATION		
			PERMANENT				TEMPORARY		PERMANENT		
			N.H.W.B. (NON WETLAND)		N.H.W.B. & A.C.O.E. (WETLAND)				BANK LEFT	BANK RIGHT	CHANNEL
			SF	LF	SF	LF	SF	LF	LF	LF	LF
1	R3UB12	A			615	60	329	24			60
2	R3RB1	E			110	13	78	7			13
3	R2UB12	D					40	15			
4	BANK	B	16	7			90	20	7		
4	BANK	C	10	5			115	24		5	
4	BANK	F	18	11			26	9		11	
4	BANK	G	33	11			66	9	11		
	TOTAL		77	34	725	73	744	108	18	16	73

PERMANENT IMPACTS: 802 SF

TEMPORARY IMPACTS: 744 SF

TOTAL IMPACTS: 1546 SF

SUBTOTALS		PERMANENT				TEMPORARY	
		N.H.W.B. (NON WETLAND)		N.H.W.B. & A.C.O.E. (WETLAND)			
CLASS	DESCRIPTION	SF	LF	SF	LF	SF	LF
R3UB12	RIVERINE			615	60	329	24
R3RB1	RIVERINE			110	13	78	7
R2UB12	RIVERINE					40	15
BANK	BANK	77	34			297	62

	WETLAND CLASSIFICATION CODES
R3UB12	RIVERINE, UPPER PERENNIAL, UNCONSOLIDATED BOTTOM, COBBLE GRAVEL AND SAND
R3RB1	RIVERINE, UPPER PERENNIAL, ROCK BOTTOM, BEDROCK
R2UB12	RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, COBBLE GRAVEL AND SAND
BANK	

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE MAINTENANCE

TOWN CHATHAM BRIDGE NO. 135/128 STATE PROJECT 42634

LOCATION NH 113 OVER BRADLEY BROOK

WETLAND KEY AND SUMMARY

BRIDGE SHEET 2 OF 3

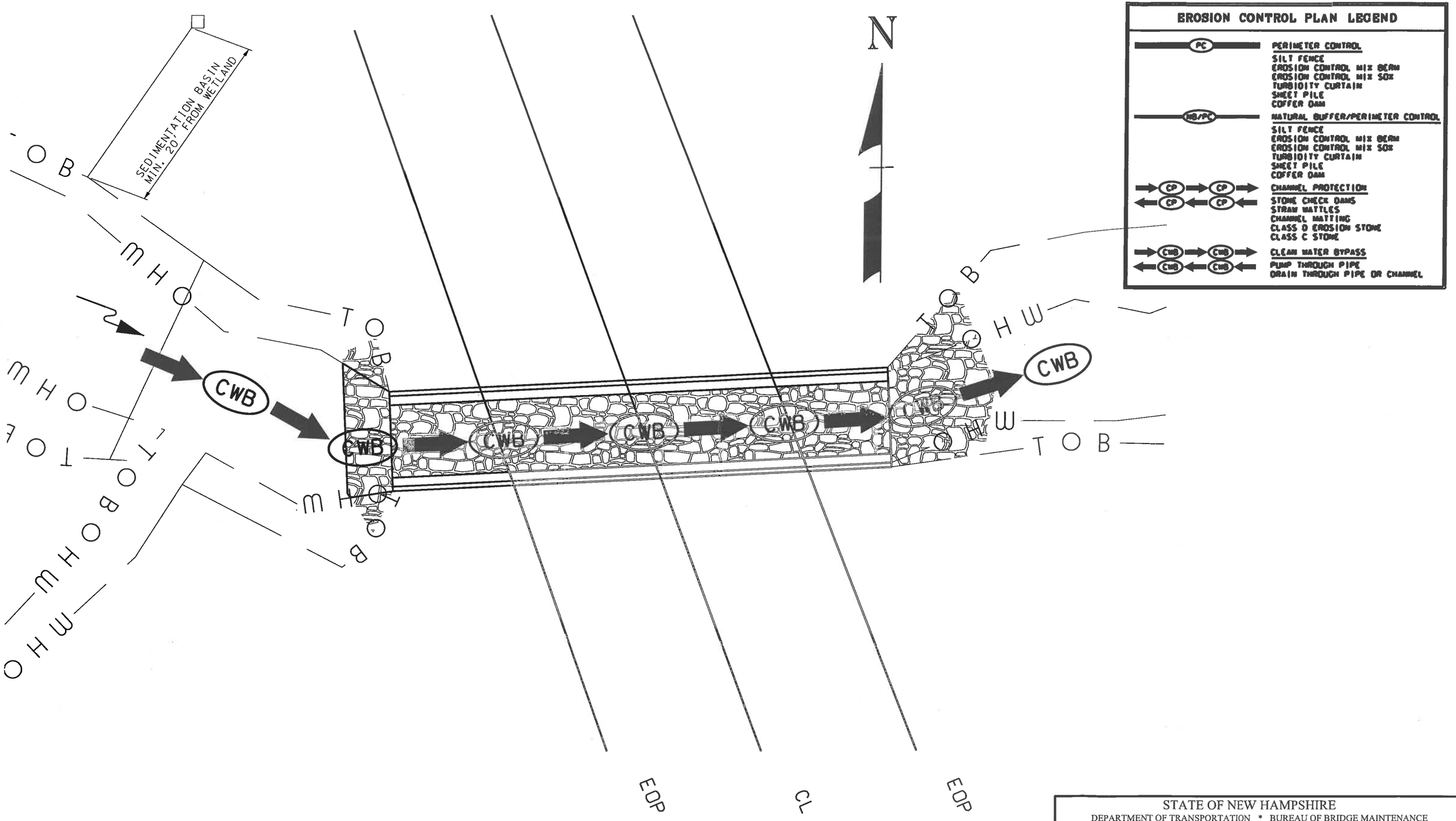
REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED			CHECKED		
DRAWN	DBL	7/9/19	CHECKED	TMB	11/25/19
QUANTITIES			CHECKED		

ISSUE DATE	FISCAL YEAR	CREW	SHEET NO.	TOTAL SHEETS
REV. DATE	2019	8	2	3

FILE NUMBER CHATHAM 135/128

SHEET SCALE AS NOTED



EROSION CONTROL PLAN LEGEND

- PC — PERIMETER CONTROL
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOCK
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- NB/PC — NATURAL BUFFER/PERIMETER CONTROL
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOCK
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- CP — CHANNEL PROTECTION
  - STONE CHECK DAMS
  - STRAW WATTLES
  - CHANNEL MATTING
  - CLASS D EROSION STONE
  - CLASS C STONE
- CWB — CLEAN WATER BYPASS
  - PUMP THROUGH PIPE
  - DRAIN THROUGH PIPE OR CHANNEL

WETLAND IMPACTS

SCALE: 1" = 20'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE MAINTENANCE

TOWN CHATHAM BRIDGE NO. 135/128 STATE PROJECT 42634

LOCATION NH 113 OVER BRADLEY BROOK

WETLAND IMPACTS

BRIDGE SHEET 3 OF 3

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED			CHECKED	
	DRAWN	DBL	7/9/19	CHECKED	TMB 11/25/19
	QUANTITIES			CHECKED	
	ISSUE DATE				
	REV. DATE				

FILE NUMBER CHATHAM 135/128

SHEET SCALE	FISCAL YEAR	CREW	SHEET NO.	TOTAL SHEETS
AS NOTED	2019	8	3	3